

**The hawkfish *Cirrhichthys serratus* Randall,  
a junior synonym of *C. falco* Randall**

JOHN E. RANDALL

45–1033 Pahuwai Pl., Kaneohe, Hawaii 96744

**Abstract**—The cirrhitid fish *Cirrhichthys serratus* Randall (1963) was described from 11 specimens collected from a drydock in Pearl Harbor, Oahu that was hauled from Guam a year earlier. It was distinguished from the apparently larger *C. falco* Randall, described from Mindanao, by slight difference in color, more convex profile of the nape, and higher average number of lateral-line scales. No additional specimens of *C. serratus* have been collected in the Hawaiian Islands or Guam, but new material of *C. falco* the same size as *C. serratus* eliminated the color and head-shape differences. Although the number of lateral-line scales remains higher for specimens from the Mariana Islands, *C. serratus* is referred to the synonymy of *C. falco*.

In his review of the hawkfishes (family Cirrhitidae), Randall (1963: 431, fig. 27) described *Cirrhichthys serratus* as a new species from 11 specimens collected from a drydock in Pearl Harbor, Oahu, Hawaiian Islands by Spencer Tinker in April 1950. The drydock had been hauled from Guam, Mariana Islands one year before. As there might be a question of the true type locality, Randall wrote, "Three adult specimens of *Cirrhichthys oxycephalus* that were taken at the same time as the series of *serratus* constitutes evidence in favor of an initial Mariana Islands locality, for the wide-ranging and relatively common *oxycephalus* is unknown from other collections from Hawaii." One specimen of the blenny *Ecsenius bicolor* was also taken from the drydock at the same time. It was described as *E. hawaiiensis* by Chapman and Schultz (1952), but was regarded as a synonym of *bicolor* by Springer (1971). *E. bicolor* is common in Guam; it has never been collected again in the Hawaiian Islands.

The following footnote was added to the quoted paragraph about the type locality of *Cirrhichthys serratus*: "After the above was written, additional specimens of *serratus* were collected by W.A. Starck, II, D.P. de Sylva and others of the Marine Laboratory, University of Miami, in September and October 1961 at Gorgona Island, Colombia, and La Plata Island, Ecuador, within the depth range 5–35 feet." These specimens were identified by Starck and de Sylva.

In October, 1963 Donald P. de Sylva of the Marine Laboratory, University of Miami, sent specimens of five families of fishes collected from the vessel "Argosy" in Panama, Colombia, and Ecuador in 1961 to the author for identification. This shipment included 106 specimens of cirrhitid fishes. These were identified by

the author as *Cirrhites rivulatus*, *Oxycirrhites typus*, and *Cirrhitichthys oxycephalus*. The last-mentioned included some specimens with a color pattern suggestive of *C. serratus* but others graded into typically colored *C. oxycephalus*; other characters such as maxillary length matched *oxycephalus*.

A loan of eastern Pacific *Cirrhitichthys oxycephalus* was requested of Richard H. Rosenblatt of the Scripps Institution of Oceanography. He provided six lots totalling 110 specimens that were collected from Panama to the Gulf of California. All are typical of *oxycephalus*, none with a color pattern similar to *serratus*.

Kami et al. (1968) recorded *Cirrhitichthys serratus* from one specimen, 60 mm TL, from Guam; however, Myers (1988) corrected this identification to *C. falco*. During the years since *C. serratus* was described, no further specimens were collected from either the Hawaiian Islands or Guam, in spite of extensive collecting by the author (and in Guam by Terry J. Donaldson and Robert F. Myers).

*Cirrhitichthys falco* was described as a new species from three specimens from Mindanao, Philippines (Randall, 1963: 435, fig. 28). In the Remarks for *falco*, Randall wrote, "This species is very closely related to *serratus*. It differs in the straighter profile of the head, the few lateral-line scales (see table 3), the larger dorsal cirri, and in color principally in the more obvious posterior bars of dark blotches and intermediate spots and the occurrence of discrete spots to form the dark anterior bars rather than dark edges of the scales as in *serratus*. Some of these differences, such as the lack of indentation in the dorsal profile of the head of *falco* and the color pattern, may be due to the difference in the size of the specimens. The largest specimen of *falco*, the holotype, is 41.8 mm. in standard length and the smallest *serratus*, 51 mm. The holotype of *falco*, however, is definitely not a juvenile. It is a ripe female with ova up to 0.3 mm in diameter." Table 3 gave the lateral-line scale count of *serratus* as 44–47 and of *falco* 42–45 (lateral-line scale counts included the single pored scale posterior to the base of the caudal fin).

Recent comparison of type specimens of *C. serratus* with additional material of *falco*, including specimens the same size and smaller than the types of *serratus*, has shown that the characters given to separate the two have been invalidated except for the count of the lateral-line scales (Table 1). There is still an obvious difference in this count. The Bishop Museum has one specimen of *C. falco* from Guam (BPBM 17789, 53 mm SL) and two from Maug in the northern Marianas (BPBM 18061, 46.5–71 mm SL). The counts of the lateral-line scales of these three specimens are 46–47. Thus it appears that the number of lateral-line scales in

Table 1. Lateral-line scale counts of three nominal species of *Cirrhitichthys*

	40	41	42	43	44	45	46	47
<i>C. oxycephalus</i>								
Indo-Pacific		1	2	4	7	4	1	
Eastern Pacific			4	3	4			
<i>C. serratus</i> types					3	4	1	2
<i>C. falco</i>								
Mariana Islands							2	1
Other localities	1	3	9	9	4	5	4	

the Mariana Islands is notably higher on the average than *falco* from the rest of its range. Specimens of *falco* from localities nearest the Marianas such as Philippines, Okinawa, Taiwan, and Palau have counts of 40–45 lateral-line scales. Robert F. Myers checked the fish collection at the Marine Laboratory of the University of Guam to see if there are more specimens of *falco* from the Mariana Islands in order that more lateral-line scale counts could be made, but there are none.

No other differences could be found to separate the Marianas specimens of *Cirrhitichthys falco* from the species elsewhere in its range. The life color of individuals from Guam is typical of the species (see Figure 1 herein and Myers, 1989: pl. 38 A). *C. serratus* is therefore referred to the synonymy of *C. falco*.

Additional collections of hawkfishes since 1963 have shown that *Cirrhitichthys falco* is a wide-ranging Indo-Pacific species, though not known west of the Maldive Islands or east of Samoa. Masuda et al. (1975) recorded it from the Ogasawara Islands and Ryukyu Islands; Fourmanoir and Laboute (1976) from New Caledonia; Russell (1983) from the southern Great Barrier Reef; Shen (1984) from Taiwan; Wass (1984) from Samoa; Zug et al. (1988) from Rotuma; Myers (1989) from the Caroline Islands and Palau; Kuitert (1992) from Flores; Randall and Anderson (1993) from the Maldive Islands; Debelius (1993) from the Maldives and Sri Lanka; Allen & Swainston (1993) from New Guinea; and Kulbicki et al. (1994) from the Chesterfield Islands. In addition, the author has seen a photograph of *C. falco* taken at Broughton Island off Newcastle, New South Wales, and he has examined specimens from the following islands not previously reported as localities for the species: Sulawesi, New Britain, New Ireland, Hermit Islands, Solomon Islands, Palawan, Negros, and Fiji.



Figure 1. Underwater photograph of *Cirrhitichthys falco*, Guam (J. Randall).

Tanaka (1994) documented the reproductive behavior and early development of *C. falco* and *C. oxycephalus*.

### Acknowledgements

Thanks are due Terry J. Donaldson, Robert F. Myers, D. Ross Robertson, Richard H. Rosenblatt, and David G. Smith for loan of specimens and/or helpful discussions.

### References

- Allen, G.R. & R. Swainston. 1993. Reef Fishes of New Guinea. Christensen Research Institute, Madang. 132 pp.
- Chapman, W.M. & L.P. Schultz. 1952. Review of the fishes of the blennioid genus *Ecsenius*, with descriptions of five new species. Proceedings of the United States National Museum. 102 (3310): 507–528.
- Debelius, H. 1993. Indian Ocean Tropical Fish Guide. Aquaprint Verlags, Nue Isenburg. 321 pp.
- Fourmanoir, P. & P. Laboute. 1976. Poissons de Nouvelle Calédonie et des Nouvelles Hébrides. Les Éditions du Pacifique, Papeete. 376 pp.
- Kami, H.T., I.I. Ikehara & F. P. DeLeon. 1968. Check-list of Guam fishes. Micronesica 4: 95–131.
- Kuiter, R.H. 1992. Tropical Reef-fishes of the Western Pacific Indonesia and Adjacent Waters. Penerbit PT Gramedia Pustaka Utama, Jakarta. 314 pp.
- Kulbicki, M., J.E. Randall & J. Rivaton. 1994. Checklist of the fishes of the Chesterfield Islands (Coral Sea). Micronesica 27: 1–43.
- Masuda, H., C. Araga & T. Yoshino. 1975. Coastal Fishes of Southern Japan. Tokai University Press, Tokyo. 381 pp.
- Myers, R.F. 1988. An annotated checklist of the fishes of the Mariana Islands. Micronesica 21: 115–180.
- Myers, R.F. 1989. Micronesian Reef Fishes. Coral Graphics, Guam. vi + 298 pp.
- Randall, J.E. 1963. Review of the hawkfishes (family Cirrhitidae). Proceedings of the United States National Museum 114(3472): 389–451.
- Randall, J.E. & R.C. Anderson. 1993. Annotated checklist of the epipelagic and shore fishes of the Maldives Islands. Ichthyological Bulletin, no. 59: 1–47.
- Russell, B.C. 1983. Annotated Checklist of the Coral Reef Fishes in the Capricorn-Bunker Group, Great Barrier Reef, Australia. Great Barrier Reef Marine Park Authority Special Publication Series 1: 1–184.
- Shen, S.-C. 1984. Coastal Fishes of Taiwan. Department of Zoology, National Taiwan University, Taipei. 190 pp.
- Springer, V.G. 1971. Revision of the fish genus *Ecsenius* (Blenniidae, Blenniinae, Salariini). Smithsonian Contributions to Zoology. 72: 1–74.
- Tanaka, Y. 1994. Reproductive behavior, egg and larval development of two species of the *Cirrhitichthys*, Cirrhitidae—*C. oxycephalus* and *C. falco*. Journal of the Faculty of Marine Science and Technology, Tokai University 38: 213–232 (in Japanese).

- Wass, R.C. 1984. An Annotated Checklist of the Fishes of Samoa. National Oceanic and Atmospheric Technical Report, National Marine Fisheries Service, Special Scientific Reports—Fisheries 781: v + 43 pp.
- Zug, G.R., V.G. Springer, J.T. Williams & G.D. Johnson. 1988. The vertebrates of Rotuma and surrounding waters. Atoll Research Bulletin, no. 316: 1–24.

Received 14 Nov. 1996

